

REMARKS

Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art of Figure 1 (hereinafter "AAPA"), in view of U.S. Patent No. 3,978,879 to Termansen et al. (hereinafter "Termansen") further in view of Patent No. WO03/040599 to Nirasawa et al. (hereinafter "Nirasawa").

Reconsideration of the application based on the following remarks is respectfully requested.

35 U.S.C. §103 Rejections

Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, in view of Termansen further in view of Nirasawa.

AAPA discloses a flow control valve piston shown in Fig. 1 and disclosed in the present application in paragraph [0013].

Termansen discloses a control means for hydrostatic steering systems and the like.

Nirasawa discloses a hydraulic valve "comprising a valve body and a spool, the valve body having a cylindrical spool-receiving room; and an oil groove." (Col. 2, lines 49 to 51).

Claim 7 recites "pump comprising:

a flow-control valve device including a piston displaceably accommodated within a piston bore, the piston bore having at least one inflow channel and at least one outflow channel, and the piston having an axial inflow orifice and a plurality of radial, lateral outflow orifices and a circumferential outflow groove disposed between a first collar and a second collar, the second collar forming a control edge for an outflowing fluid flow,

the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge."

AAPA fails to teach or show "the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding

in terms of a radial depth on an outer circumference of the piston towards the control edge” as required by claim 7.

The Office Action on page 3 cites to Termansen for teaching “the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices,” and Nirasawa for teaching “the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge.” However there is no reason or motivation for one of skill in the art at the time of the invention to modify AAPA in view of Termansen and Nirasawa.

First, Nirasawa does not disclose a piston and therefore there was no reason or motivation for one of skill in the art at the time of the invention to modify the piston of AAPA based on a passage (44) of spool (40) of Nirasawa. Passage 44 is not an outflow groove and Nirasawa provides no reason or motivation for re-imaging passage 44 as an outflow groove and to be combined with AAPA and Termansen. Fig. 1 of Nirasawa, referenced in the Office Action on page 3, is a regulator valve of a vehicle transmission. Passage 44 is not an outflow groove and only shows a general similar shape with the claimed outflow groove. Nirasawa provides no reason or motivation for re-imaging passage 44 as an outflow groove and to be combined with AAPA and Termansen. The Office Action asserts the motivation is to “smooth flow transition between the discharge orifice and an outlet connection,” however one of skill in the art would have had no reason to look to the transmission teachings of Nirasawa to modify the power steering piston of AAPA.

Furthermore, the combination asserted by the Examiner is based on impermissible hindsight. Neither Termansen nor Nirasawa provide any reason or motivation for combination with AAPA at the time of the invention. The Examiner has simply pulled an object from a regulator valve of a transmission out of the prior art Nirasawa, a passage 44 of spool 40, and combined it with unrelated power steering components of AAPA and Termansen. The Office Action asserts on page 5 that “the motivation for such modification as stated in the Office Action is smooth flow transition between discharge orifice and an outlet connection.” However, Nirasawa is unrelated to the control flow of power steering and one of skill in the art would not have

combined Nirasawa with the teaching so AAPA and Termansen. Therefore, the Examiner's motivation in seeking out the unrelated component (passage 44 of spool 40) to provide an outflow groove of the claimed shape and is based on "knowledge gleaned only from applicant's disclosure," which is an improper hindsight reconstruction. MPEP 2141.01(a).

Withdrawal of the rejection of independent claim 7 and claims 8 to 11 and 13 which directly and indirectly depend on claim 7, under 35 U.S.C. §103 is respectfully requested.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

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